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Processes occurring during the manufacture of form based on magnesite oxide and casting titanium products

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Abstract

© 2018 Institute of Physics Publishing. All rights reserved. In this work investigate the chemical processes occurring during the manufacture of magnesium oxide-based mold and casting titanium products to prevent the formation of alpha case. When molten titanium is poured into the mold due to low thermal conductivity the mold is heated unevenly. The resulting carbon dioxide and active metal compounds migrate to the more heated regions adjacent to the surface of the casting. The increased concentration on the surface of the O, Si, Ca, Na forms promotes the reactions to form active metal titanates.

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